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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,572	11/23/2001	Osama Moselhi	6446-17US JA/IC/AD	2015

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EXAMINER

CHAWAN, SHEELA C

ART UNIT PAPER NUMBER

2623

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,572

Applicant(s)

MOSELHI ET AL.

Examiner

Sheela C. Chawan

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-8, 14-18, 23-26 and 32-35 is/are rejected.
- 7) ☒ Claim(s) 9-13, 19-22, 27- 31, 36- 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on Dec 21, 2005 has been entered and made of record.

Claims 1-3 are canceled.

Claims 4 -39 are pending in the application.

Response to Arguments

2. Applicant's arguments, see page 2, lines 15-18 of the remarks, filed May 24, 2005, with respect to rejection of claims 4-39 under 102(a) have been fully considered and are persuasive. Therefore, the 102(a) rejection of claims 4-39 has been withdrawn. However, upon further consideration, a new ground(s) of rejection 102 (b) in view of Stafford et al., (US. 5,331,550).

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 11/26/2003 has been considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4 - 8, 14 - 18, 23 - 26, 32- 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Stafford et al., (US. 5,331,550).

As to claim 4, Stafford discloses a method for detecting a plurality of defects in an item under inspection (note, computer – aided analysis is done by a parallel processing where images are digitized to accurately provide information about the location of possible anomalies in the industrial images/ or medical diagnosis, (abstract, column 2, lines 29- 32, column 3, lines 29 - 31) comprising:

acquiring at least one image of said item (fig 1, element 2 the analogy image is raster-scanned and digitized (fig 1, element 4) to detect defects in various industrial images such as radiographs or sonogram images of parts, equipment and /or welds. The resultant digitized output image 2' from the digitizer 4 comprises a matrix of M rows by N columns ($M \times N$) of adjacent individual picture elements ("pixels"), column 2, lines 39- 40, column 3, lines 29- 31, 40-46, column 4, lines 1- 4, column 4, lines 44- 54);

providing a plurality of neural networks (fig 2, element 22A - 22N corresponds to plurality of neural networks, column 4, lines 50- 54, column 6, lines 48- 65), at least one of said plurality of neural networks corresponding to each one of said plurality of defects to be detected (column 7, lines 14- 31);

processing said at least one image to produce a processed image having objects isolated from an image background of said image acquiring at least one image of said item (fig 1, element 2 the analogy image is raster-scanned and digitized by apparatus (fig 1, element 4) to detect defects in various industrial images such as radiographs or sonogram images of parts, equipment and /or welds. The resultant digitized output image 2' from the digitizer 4 comprises a matrix of M rows by N

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columns (MxN) of adjacent individual picture elements ("pixels"), subdividing the digitized image into a plurality of predetermined regions each comprising mxn picture elements and subtracting background from each predetermined region of the digitized image using neural network to analyze each predetermined sub region of the digitized image as pattern indicative of an occurrence of a possible anomaly, column 2, lines 39-56, column 3, lines 29- 31, 40-46, column 4, lines 1- 4, column 4, lines 44- 54); (column 2, lines 34- 47, column 4, lines 44 - 68, column 5, lines 3 - 40); and

inputting said processed image into said plurality of neural networks to obtain information concerning corresponding defects (note, fig 2, element 22A - 22N corresponds to plurality of neural networks, neural network system, analyzes each predetermined sub region of the digitized image to recognize any pattern indicative of an occurrence of a possible anomaly, the neural network system comprising at least two member neural networks each trained to recognize a particular preselected anomaly-type of a preselected size and to produce an output signal value indicative of the presence of said preselected anomaly type, column 4, lines 44- 54, column 5, lines 48- 64, column 6, lines 29- 68, column 7, lines 14-31, column 7, lines 45- 68, column 8, lines 1-11, 26- 50, column 9, lines 1-64).

As to claim 23, see the above rejection for claim 4.

As to claims 5 and 24, Stafford discloses a method, further comprising issuing a report using said information concerning said defects (fig 2, element 30, column 9, lines 1-18).

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As to claims 6 and 25, Stafford discloses a method, wherein said plurality of neural networks further comprises sets of neural networks used for counter-checking results (column 8, lines 12- 25), each one of said sets of similar neural networks corresponding to each one of said plurality of defects to be detected (column 7, lines 56- 68, column 8, lines 1- 34, column 9, lines 11- 18).

As to claim 7, Stafford discloses a method, wherein processing said at Yeast one image further comprises processing said at least one image according to a selected set of image analysis techniques said set of image analysis techniques selected as a function of said defects to be detected (column 2, lines 1-26, column 6, lines 28- 38, column 7, lines 1-13).

As to claims 8 and 26, Stafford discloses a method, wherein n sets of neural networks are used to detect n types of defects (column 6, lines 48- 65, column 7, lines 14- 31).

As to claims 14 and 32, Stafford discloses a method wherein said neural networks are back propagation neural networks (column 7, lines 32- 44).

As to claims 15 and 33, Stafford discloses a method wherein said acquiring an image comprises using a closed circuit television camera and a videotape (column 9, lines 50- 64).

As to claims 16 and 34, Stafford discloses a method, wherein said videotape is digitized (column 2, lines 33- 41).

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As to claim 17, Stafford discloses a method, wherein each set of neural networks comprises at least three neural networks used for counter-checking results (fig 2, 22A, 22B, and 22N, corresponds to at least three neural networks).

As to claims 18 and 35, Stafford discloses a method comprises determining a position (column 9, lines 50- 64) of said objects in said item under inspection (column 3, lines 41-46).

Allowable Subject Matter

5. Claims 9 - 13, 19 - 22, 27- 31, 36- 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other prior art cited

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Stefanski (US. 5,450,315) discloses apparatus using a neural network for power factor calculation.

Unsworth et al., (US.6,757,665 B1) discloses detection of pump cavitation/ blockage and seal failure VIA current signature analysis.

Freese, V et al., (US.5,604,441) discloses in-situ oil analyzer and method of using same, particularly for continuous on - board analysis of diesel engine lubrication systems.

Glier et al., (US.5,701,398) discloses adaptive classifier having multiple subnetworks.

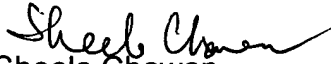
Filkin (US.5,046,020) discloses distributed parallel processing network wherein the connection weights are generated using stiff differential equations.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela C Chawan whose telephone number is. 571-272-7446. The examiner can normally be reached on Monday - Thursday 7.30 - 6.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached at 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sheela Chawan
Patent Examiner
Group Art Unit 2623
Feb 27, 2006



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